

- (v) service outages tracked and reported every four hours and faulty service restored within 24 hours.

As to capacity for pre-order, order and provisioning, a fully-functioning OSS would handle all processes to support new orders for 5% of the customer base per month. As to effectiveness, a fully-functioning OSS would be systems operational 99.7% of the time and provide accurate data. [See Appendix A for additional specification and Appendix B for more detailed standards]

b. Pre-Ordering

i. Customer Information Requirements.

To service customers in a prompt and efficient manner, the CLEC needs to have real-time access to current customer profiles in ASCII fixed format files, including the subscriber name, billing and service addresses, billed telephone numbers, and identification of features and services on subscriber accounts. A fixed file format will enable the CLECs to programmatically manipulate preordering data to ensure accurate ordering. The ILEC also should meet CLEC requirements and provide real-time application-to-application electronic access to telephone number reservation, due date reservation, feature function availability, facility availability, street address validation, appointment scheduling, and customer service records, on a 24 hour/7 day per week basis (except for scheduled maintenance periods). [See Appendix A for additional specification and Appendix B for more detailed standards]

ii. Service Delivery Prerequisites

To compete effectively, the CLEC must have baseline and regularly refreshed information necessary to process orders, including SAG (Street Address Guide) MSAG (Metropolitan Street Address Guide) and E911 address data, due date intervals for use in establishing service installation dates, service and feature availability information, engineering design and layout information, and appointment scheduling for service installation. To ensure

that the customers gets the promptness of service customers have come to expect, the ILEC needs to provide the CLEC with the ability to obtain telephone numbers, vanity numbers, and the like while a subscriber is on the line. To correctly establish directory listings, the CLEC also needs to baseline and regularly refreshes information regarding common abbreviations for words, titles, jobs, etc. [See Appendix A for additional specification and Appendix B for more detailed standards]

iii. Advance Notification Requirements

The ILEC must inform the CLEC of all changes to business processes and service offerings, such as services available from and the service coverage area of each switch, all vertical features, the available intraLATA and interLATA carriers, and new ILEC service features. Otherwise, the CLEC will be at a disadvantage viz. the ILEC in being able to make features and services available to its customers and potential customers. [See Appendix A for additional specification and Appendix B for more detailed standards]

iv. Performance Measurements

To ensure that parity of access is being maintained, the ILEC must comply with performance standards and provide reporting for various measurements, including query failure rates, speed of answer by support center, speed of inquiry closure, and response interval of successful queries. [See Appendix B for specific parameters] The ILEC also would need to provide reports giving performance results on a monthly or shorter basis with sufficient historical data to allow trending for the ILEC itself, all CLECs on average and the individual CLEC. [See Appendix A for additional specification and Appendix B for more detailed standards]

v. *Network Element Foundation*

The ILEC must provide all capabilities of the unbundled network element ordered by the CLEC. The ILEC also must provide on-line and timely electronic updates of all listings of all custom features available from each end office, including custom calling, customized routing functions, and CLASS and CENTREX features. Otherwise, the CLECs will not be knowledgeable in dealing with their customers. [See Appendix A for additional specification and Appendix B for more detailed standards]

c. *Ordering/Provisioning*

i. *Service Parity*

The ILEC must provide the same level of ordering and provisioning support to CLECs as it provides itself or its customers. To avoid customer confusion and allow for efficient ordering, the ILEC would need to provide a single point of contact for ordering and provisioning resale service and unbundled elements, with capabilities including a toll-free nationwide number, coordinated scheduling, status and dispatch capabilities, and processing orders through an electronic interface 24 hours a day/7 days a week (except for scheduled maintenance periods). The ILEC also would need to provide comprehensive support for CLEC ordering and provisioning activities, including the provision of firm order confirmation, obtaining of authorization for service order changes, processing of service suspensions/restorations, and daily disconnect notification. Unless the ILEC also provides CLECs the ability to order switched resale services and unbundled network elements with no disconnection or disruption of service, there necessarily will be customer dissatisfaction to the detriment of the CLECs. The ILECs also needs to provide a comprehensive electronic file of USOCs with their common language description, and attributes such as whether the USOC is resellable, and/or under a term contract,

in order for CLECs to accurately order services. At this time, no ILEC has provided this baseline information for all states in which they operate, nor have they made arrangements to provide regular updates. [See Appendix A for additional specification and Appendix B for more detailed standards]

ii. Testing

The ILEC must perform comprehensive testing, including pre-service testing before provisioning of the order, cooperative testing with the CLEC and operational interface testing. [See Appendix A for additional specification and Appendix B for more detailed standards]

iii. Electronic Interfaces

The ILEC needs to provide electronic interfaces to support all ordering and provisioning processes, implement the OBF defined Local Service Ordering Guidelines as mechanized in EDI format by the EDI Service Order Subcommittee of the Telecommunications Industry Forum, and provide gateway access for application-to-application real-time interface capability. Otherwise, these processes will be unduly error-prone and unable to meet volume demands, which would result in customer confusion and dissatisfaction to the detriment of the CLECs. [See Appendix A for additional specification and Appendix B for more detailed standards]

iv. Performance Measurement

To ensure that parity of access is being provided, the ILEC must comply with performance standards and provide reporting for pertinent measurements, including acknowledging orders, providing firm order confirmation, provisioning of total services resale, provisioning of unbundled network elements, providing switch translations and notifying the CLEC of order completion. [See Appendix B for specific parameters] The ILEC also would need to provide at least monthly reports giving prescribed performance results for the ILEC

itself, all CLECs on average and the individual CLEC, with sufficient historical data to allow trending. [See Appendix A for additional specification and Appendix B for more detailed standards]

d. Billing

Billing requirements relate to two separate areas: (i) ILEC invoices to CLECs for ILEC services and facilities; and (ii) ILEC provision of data to CLECs so that CLECs can bill their own customers and also can bill IXCs for access charges in those instances where the CLEC provides exchange access (originating and terminating) over an unbundled local switch purchased from the ILEC. In both instances, to ensure that parity of access is being provided, the ILEC must provide reports detailing prescribed performance results for the ILEC itself, all CLECs on average, and the individual CLEC on at least a monthly basis with sufficient historical data to allow trending. [See Appendix A for additional specification and Appendix B for more detailed standards]

i. ILEC Invoices to CLECs

Concerning billing format standards, ILECs must provide a monthly invoice to CLECs for charges not more than 90 days preceding. Such a bill will be closed to further transactions (except audits) nine months after the bill date. Charges will be billed in actual conversation seconds. ILEC invoices will be presented in CABS or SECABS format. Capital expenses associated with collocation must be invoiced separately from connectivity charges.

Concerning performance measurements, the ILEC must fully test electronic transmission of its invoices and must also meet timeliness performance specifications for the provision of Exchange Message Interface (EMI) and Exchange Message Record (EMR) records. The ILEC also must meet accuracy and completeness performance specifications for CLEC invoices.

Billing disputes would need to be escalated promptly (e.g., at no later than 60 and 90 days) and, if there is no resolution within a reasonable time (e.g., 120 days), would have to be resolved via formal dispute resolution procedures. CLECs should be reimbursed by ILECs for incorrect charges, including: overcharges; services not delivered or not delivered timely and accurately; interrupted services; services of poor quality; and installation problems caused by ILECs. [See Appendix A for additional specification and Appendix B for more detailed standards]

ii. ILEC's Provision of Customer Usage Data

CLECs must be able to timely and accurately bill their customers. To accomplish this, the recorded usage data they receive must include information about a number of events, including: call attempts; completed calls; the use of CLASS and other custom features; Information Service Provider calls; IXC-specific access usage; directory assistance calls (if ILEC-provided); Centrex station level detail records; and a record of completed flat rate calls for which the ILEC may not record its own offerings. This data should be transmitted to the CLEC daily for the previous 24 hour period. The ILEC must perform operational and interface testing to ensure that usage records can be sent to the CLEC and accepted, extracted and processed. Further, the ILEC must recover lost, damaged or destroyed data resulting from its errors or omissions at no cost to the CLEC. Customer usage data also must be subject to several performance measurement standards, including standards for timeliness, accuracy and responsiveness. The ILEC also must meet a 100% performance standard to the completed transmission of all records, or face liability for lost CLEC revenue. [See Appendix A for additional specification and Appendix B for more detailed standards]

e. Maintenance/Repair

i. Service Parity

The ILEC must ensure that CLEC subscribers receive response priority equal to that of ILEC subscribers, are handled on a “first come first served” basis along with ILEC subscribers, and receive regularly scheduled maintenance for network elements equal in quality to that provided by the ILEC for its own network. Otherwise, customers necessarily will see the CLECs as providing inferior service. If there are any special out-of-service procedures, CLECs need access to those procedures to provide parity of restoration to their out-of-service customers. [See Appendix A for additional specification and Appendix B for more detailed standards]

ii. Emergency/Disaster Recovery Procedures

The ILEC should provide the CLEC a description of all emergency restoration and disaster recovery plans, and inform the CLEC of repair completion and trouble reason. [See Appendix A for additional specification and Appendix B for more detailed standards]

iii. System Interfaces

Manual interventions are highly error-prone and incapable of handling the volumes involved as the CLECs’ customer base grows. Hence, real-time electronic interfaces that are seamless and transparent to CLEC personnel must be developed. Such electronic bonding will have system-to-system connection with immediate update capabilities. These interfaces must permit the CLEC to perform various functions including identification of potential service degradation, entry of trouble reports, tracking and retrieval of current status, receipt of estimated time to repair information, retrieval of time and material charges at the time of ticket closure, receipt of automated notification case closure, and remote performance of mechanized line tests. [See Appendix A for additional specification and Appendix B for more detailed standards]

iv. Performance Measurement and Reporting

To ensure that parity of access is being provided, the ILEC must comply with performance standards related to answering incoming trouble reports from the CLEC, adhering to specified repair intervals for out-of-service trouble tickets, restoring emergency network outages, restoring outages, and repeat trouble report rates from the same subscriber. [See Appendix B for specific parameters] The ILEC also would need to report on a monthly or shorter basis with sufficient historical data to allow trending the performance results for the ILEC itself, the CLECs on average and the individual CLEC. * [See Appendix A for additional specification and Appendix B for more detailed standards]

3. Operational Readiness

As a first prerequisite to an ILEC's establishing that it is providing nondiscriminatory access to its OSS, the ILEC must show that its proposed OSS interfaces are in a state of full "operational readiness" to handle the demands of CLECs on a nondiscriminatory basis. This state of operational readiness is the end result of a systems development effort and is achieved when the systems are providing useful, reliable results in accordance with their proposed function and design. In short, "before a BOC can establish that it will be able to provide unbundled network elements or resale services in a competitively acceptable manner, it must demonstrate both that its OSS interfaces are linked to downstream systems that can provide the necessary services in a prompt and trouble-free fashion and that it provides adequate training and support to competing local carriers." [Martinez at 12] This electronic interface is not just a matter of transmitting requests electronically from the CLEC to the ILEC and having the ILEC

* The FLC Report provides additional detail than that summarized above. Also, requirements relating to additional miscellaneous services and functions appear in the FLC Report. These involve requirements relating to 911 and E911, directory assistance, operator service, and directory listing.

handle those requests manually -- instead, it is an interface that allows the CLECs to have the same ability to access electronically the panoply of OSS functions, databases, testing, maintenance and reporting features that the ILEC can access electronically (i.e., parity). [Martinez at 11-15; Pfau-M at 7 (“Equivalent information availability means that [the ILEC] must deliver to the CLEC, to no lesser a degree than it does for its own employees, all data necessary to support a specific transaction and the delivered data must be in useable formats and unambiguous to the recipient and not entail human intervention in order to acquire the data”)] And because “OSS is a substantial and time-consuming undertaking, there is a real difference between saying a system is ready and actually using it to provide services in a commercially satisfactory way” -- “OSS must be in real competitive use (not merely promised) and subject to auditing and monitoring of key performance indicators before OSS can be deemed to be operationally ready.” [Martinez at 15] The “OSS interface must be shown to be equally capable of supporting service delivered either through the resale of local services or through the use of unbundled network elements” and “each interface must demonstrate the ability to handle the transactional load reasonably expected to occur as the competitive market place develops.” [Pfau-M at 7].

An “interface” is a system that functions as the nexus between two separate OSSs. An interface between two OSSs is operationally ready when the two systems are working together satisfactorily to deliver the services for which they were designed. [Pfau-M at 7 (OSS interfaces must provide “equivalence of information availability,” “accuracy,” and “timeliness”)] Hence, an ILEC cannot unilaterally declare its OSS interface operationally ready. As one ILEC has explained, the development of an operationally ready electronic OSS interface is a complex and difficult undertaking, which requires thorough testing and actual operation to ensure accurate,

reliable and timely communications between the two systems. [US West Petition at 4] The ILEC first must define the inputs and outputs that will allow the two systems to communicate with each other across the interface, so that the CLEC can then undertake systems development activities to design or modify its own OSS capabilities, and the systems then can be tested to ensure that they are communicating with each other on an accurate, reliable and timely basis. [Pfau-M at 9] Specifically, such interface development involves a series of steps (including system analysis, specification refinement, system design, system development, system testing, integration testing, training and development), none of which can be skipped or abbreviated. [See Connolly-M ¶ 25 (“These systems development activities usually occur in several steps: systems analysis, specification refinement, system design, system development, system testing, integration testing, training and implementation”) and ¶¶ 26-36 (describing each step)]

Manual access arrangements are not satisfactory because “[e]very manual intervention causes delay, sometimes substantial, and creates significant risk of error.” [Spivy at 6; Miller at 7] “By relying upon manual interventions, [the ILEC] can hold its competitors hostage to its own response time, hours of operation, and ability (or incentive) to provide accurate information” and “[a]s transaction volumes increase, manual interventions create huge bottlenecks.” [Spivy at 6; Miller at 7] “Also, manual arrangements increase CLECs’ costs” because they “must employ more people to handle the process and to audit [the ILEC’s] performance” and “the ILEC will try to pass its own inflated costs through to the CLECs.” [Spivy at 6] The development of app-to-app interfaces now will prevent the need to develop elaborate WTN-by-WTN feature and service comparison applications in the future. These audit systems will be necessary to resolve the differences that will occur from errors from orders being rekeyed into multiple systems at multiple companies. These audit systems will be expensive for

both the CLECs and ILECs to implement. However, consumers will be most impacted by the lack of app-to-app interfaces, when they do not receive the service ordered.

The Commission has recognized that the interface must be electronic and that a manual approach is not satisfactory: "Obviously, an incumbent that provisions network resources electronically does not discharge its obligation under § 251(c)(3) by offering competing providers access that involves human intervention, such as facsimile-based ordering." [Order ¶ 523] Other potential entrants have made the same point in connection with Rochester Telephone. [Order ¶ 508 (1400 pages of faxes required to sign up 100-200 customers)] And several state commissions have come to the same conclusion. [Order ¶ 510 (discussing efforts of the California, Georgia, Illinois, Louisiana, Ohio and Oklahoma commissions to require electronic interfaces)] *

"Operational readiness" "is achieved when the systems are providing useful results according to design" and "[a]n interface between two systems is operationally ready when the

* One commentator has concluded that this need for an "electronic bond between established local networks and the new competitors" as the "weakest" but "most critical" "link in the entire interconnection process" because a "competitor's quality of service depends on the quality of the interfaces it has to the incumbent telco's OSSs." See King at 52; *accord* Martinez at 6-8 ("From the customer's perspective, interactions with a CLEC that has electronically bonded to the ILEC are indistinguishable from interactions with the ILEC" and "because electronic bonding links the CLEC's existing OSS system to that of the ILEC, the CLEC does not need to develop a new OSS interface to communicate with the ILEC for a given function"; and "[m]anual access arrangements are not compatible with MCI's needs as a new entrant" because "[e]very manual intervention causes delay, sometimes substantial, and creates significant risk of error" -- "[b]y relying upon manual interventions, the ILEC can hold its competitors hostage to its own response time, hours of operation, and ability (or incentive) to provide accurate information").

The Commission likewise has made clear that "an incumbent LEC must, at a minimum, establish and make known to requesting carriers the interface design specifications that the incumbent LEC will use to provide access to OSS functions," because "[i]nformation regarding interface design specifications is critical to enable competing carriers to modify their existing systems and procedures or develop new systems to use these interfaces to obtain access to the incumbent LEC's OSS functions." [Second Order on Recon ¶ 8]

two systems work together satisfactorily with the underlying systems on both sides of the interface to deliver the services for which the interface was designed,” and “have been tested by systems developers and users on both sides of the interface under testing criteria designed to simulate market conditions.” [Connolly-M ¶¶ 21-23; see also Spivy at 11, 14 (“before an ILEC can establish that it will be able to provide unbundled network elements or resale services in a competitively acceptable manner, it must demonstrate both that its OSS interfaces are linked to downstream systems that can provide the necessary functionalities in a prompt and trouble-free fashion and that it provides adequate training and support to competing local carriers” -- and explaining that operations support “systems failures have caused substantial customer confusion and dissatisfaction” and “have also imposed losses on MCI that could amount to millions of dollars in lost revenue”)] “A limited set of questions must be answered affirmative[ly] before OSS access may be considered operationally ready,” “for each of the five key processes -- pre-ordering, ordering, provisioning, maintenance and repair, and billing.” [Pfau-G at 5] The questions are:

- (i) “is each interface fully documented and does the documentation reflect mutual agreement regarding data format and structure, the mechanisms for exchanging information and the business rules applicable to the exchange?”;
- (ii) “[d]oes the delivery of OSS functionality to the CLECs entail no more manual processing than that required by the ILEC when it accesses its OSS?”;
- (iii) “[h]ave the ILEC and CLEC completed pairwise end-to-end testing that demonstrates the OSS access operates as intended?”;
- (iv) “[w]ill OSS access support the transactional load likely to be associated with a highly competitive local service marketplace?”; and
- (v) “[w]ill the OSS access fully and efficiently support the delivery of retail local service through either services resale or use of unbundled network elements?”

[Pfau-G at 5; see also Smith at 10-12 (similar)] *

* For a complete description of the development effort required to obtain operational readiness, see Dalton at 20-29.

Finally, there is no genuine dispute that the Commission found [at Order ¶ 520] that it was “technically feasible” for the ILECs to provide fully electronic OSS interfaces requiring no manual intervention. [Kirchberger-N at 22] Thus, “Bell Atlantic does not dispute that fully electronic OSS interfaces requiring no manual intervention are technically feasible” -- “[m]oreover, incumbent LECs . . . have provided such fully electronic machine-to-machine, system-to-system interfaces to interexchange carriers for many years in connection with interLATA access services.” [Kirchberger-N at 22]

4. *Desirability of Standardization*

The ILECs consist of seven RBOCs, GTE and other independent telephone companies, including many smaller, rural firms. There are hundreds of potential competitors for local telephone service. Some of them are substantial companies, but most of them are small or otherwise face significant resource constraints. LCI, which has more resources than many companies, does not have the resources of an AT&T or MCI, so that undertaking its side of achieving OSS functionality is a substantial effort in the best of circumstances, but a daunting one if LCI must undertake a separate effort, from scratch, with each RBOC, GTE and each other company in whose market LCI would like to compete for local service and access. [See Martinez at 8-9 (“for CLECs that hope to compete in markets presently controlled by different BOCs it is absolutely critical that interfaces are uniform” because the “costs of developing systems and software and of training necessary to use any particular interface are substantial”)]

LCI is mindful of the Commission’s finding in the Second Order on Recon ¶ 13, and agrees that, in rejecting the requests of Local Exchange Carrier Coalition (“LECC”) and Sprint, the Commission correctly “decline[d] to condition the requirement to provide access to OSS functions upon the creation of such standards.” At the same time, LCI also supports the

Commission's position of "continu[ing] to encourage parties to develop national standards for access to OSS functions." [Second Order on Recon ¶ 13] Clearly, the more commonality of standards for access to OSS functions that is achieved by the ILECs, the quicker and more robust will be the competition in local markets. [Order ¶ 527 ("Ideally, each incumbent LEC would provide access to support systems through a nationally standardized gateway")]

Although "they have not yet established national standards for all OSS functions," the Alliance for Telecommunications Industry Solutions (ATIS) has sponsored and American National Standards Institute (ANSI) has accredited three principal groups for national standard setting: the Ordering and Billing Forum (OBF) of the Carrier Liaison Committee; the T1 Committee; and the Electronic Communications Implementation Committee (ECIC). [Martinez at 8, 10] These "industry forums are well positioned to resolve which interfaces and formats are reasonably necessary and practical for each particular OSS function or sub-function" and "have made substantial progress." [Martinez at 9-10; *accord* Spivy at 8] However, "[b]ecause the time and incremental capital investment required for CLECs to develop non-standard OSS interfaces represents a considerable barrier to entry, regulatory incentives toward standardization are critical." [Martinez at 9-10] Specifically, it has been suggested, and LCI agrees, that an ILEC's OSS interface "should be deemed satisfactory only if these conditions are satisfied: (1) Wherever there exists an existing industry standard, the BOC must have adopted and implemented it; and (2) wherever an industry standard does not yet exist, the BOC must (a) enter into a binding contractual commitment (backed up by adequate contractual and regulatory penalties) to comply with industry standards as soon as possible (pursuant to a specified implementation schedule) and (b) offer and implement an interim solution that gives requesting carriers the same level of access that the BOC's operational groups have to its systems, and that is [as] consistent as

possible with expected industry standards.” [Martinez at 10-11; *accord* Spivy at 9-10] * Finally, applications and data files must be modified to support Year 2000 date formats. Currently, daily usage files utilize two digit years rather than four digit years. This should be handled now while there are 2+ years to perform the modifications, similar to the rest of the industry, which is immersed in Year 2000 projects.

5. *Verification and Monitoring*

“An important implementation issue is the ability of new competitors to determine that they are receiving treatment equivalent to that provided to [the ILEC] and its affiliates.” [Tamplin at 24] Accordingly, “it is necessary to establish benchmarks and performance standards that are readily understandable and can be used by the carriers and this Commission in determining whether new service providers are receiving nondiscriminatory treatment. It is therefore critical that there be standards for implementation of the unbundling of the elements that cover pre-ordering, ordering, provisioning, and maintenance of the unbundled switch and the unbundled platform. This is especially critical because [at least one ILEC, e.g., BellSouth] contends that it does not know what its own internal benchmarks are.” [Tamplin at 24-25 (citing Sheye); DOJ Evaluation at 60-61 (discussing SBC’s failure to provide performance standards and the importance of doing so) and the Friduss affidavit); Pfau-G at 17 (“A plan must exist for measuring access for the provision of resale services and UNE”)]

The increased costs in time and money that befall CLECs from lack of standardization by the ILECs is a serious problem in any circumstance. But the problem is all the more compounded when it is recognized just how difficult and complex it is for competitors to get from where they are today to operate as competitive facility-based local exchange carriers [see Exhibit LM-1 to the Mead and related explanatory testimony at 4-11] and that the OSS-related failures described in this paper are not the only way in which the ILECs are thwarting the advent of local competition [see, e.g., Petition of MCI for Declaratory Ruling (addressing use of intellectual property to thwart competition), CC Docket No. 96-98].

"An acceptable measurement plan must embody at least four characteristics," which are to:

- (i) provide "statistically valid comparisons of CLEC experience to that of the [ILEC]" and between CLECs;
- (ii) account for potential performance variations due to differences in service and activity mix";
- (iii) accommodate not only service-oriented measures but also measures directed at UNEs in general and OSS interfaces in particular"; and
- (iv) "produce results which demonstrate that nondiscriminatory access to OSS functionality is . . . being delivered across all interfaces and a broad range of resold services and unbundled network elements."

[Pfau-G at 17] Further, "[b]eyond gathering sufficiently discrete measures that are suitable for meaningful comparison . . . , the measures adopted must address interface availability, timeliness of execution, and accuracy of execution." [Pfau-G at 21] *

In sum, "[g]ood metrics are critical both as a matter of law and as a matter of policy. As a matter of law, [an ILEC] will not satisfy its burden of showing parity without them. As a matter of policy, . . . the FCC will [not] be in any position to conclude that [the ILEC] is providing commercially reasonable services merely because [it] has promised to do so." [AT&T Brief at 7]

There also must be no restrictions placed on the distribution of performance measurement data. Some ILECs have attempted to negotiate agreements with CLECs to declare such measurements and corresponding data to be confidential information with limitations on disclosure to other CLECs or even to this Commission. [5/14/97 LCI Letter to Bell Atlantic] OSS performance standards and data must be available publicly so that all CLECs can be assured

* For a more detailed discussion of verification and monitoring requirements and difficulties imposed by ILECs in achieving a satisfactory level, and the critical importance of verification and monitoring, see Pfau-G at 18-25.

that their service is at parity both with the ILEC's own service and with the service provided other CLECs, and so that government bodies charged with enforcement can review them.

6. *Parity of Access*

The Commission "conclude[d] that an incumbent LEC must provide nondiscriminatory access to their operations support systems functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing available to the LEC itself." [Order ¶ 523] Thus, "the incumbent must provide the same access to competing providers" that it provides to its own customer representatives. [Order ¶ 523; see also Order ¶¶ 316 ("the incumbent must provide access to [OSS] functions under the same terms and conditions that they provide services to themselves or their customers") and 518 (competing providers must be provided with the ability "to perform the functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing for network elements and resale services in substantially the same time and manner that an incumbent can for itself")] "Such non-discriminatory access," the Commission further concluded, "necessarily includes access to the functionality of any internal gateway systems the incumbent employs in performing the above functions for its own customers" (e.g., "to the extent that customer service representatives have access to available telephone numbers or service interval information during customer contacts, the incumbent must provide the same access to competing providers"). [Order ¶ 523 ("an incumbent that provisions network resources electronically does not discharge its obligation under section 251(c)(3) by offering competing providers access that involves human intervention, such as facsimile-based ordering")]

To establish "parity of access," an ILEC "must demonstrate that its OSS interfaces provide (1) equivalence of information availability, (2) equivalence of information accuracy, and (3) equivalence of information timeliness." [Pfau-M at 7; see also Kirchberger-N at 7] At least

one RBOC (Ameritech) "apparently agrees with the critical nature of these tests as demonstrated by their proposal to measure exactly these parameters as part of showing their OSS access is nondiscriminatory." [Pfau-M at 7] "Beyond demonstrating attainment of these three conditions, [an ILEC's] OSS interface must be shown to be equally capable of supporting service delivered either through the resale of local services or through the use of unbundled network elements. Moreover, each interface must demonstrate the ability to handle the transactional load reasonably expected to occur as the competitive marketplace develops." [Pfau-M at 7] *

Another parity-of-access issue involves the insistence of at least some ILECs (e.g., BellSouth and GTE) on written letters of authorization (LOAs) before customer proprietary information is disclosed to a CLEC. [See respective sections on failures of Ameritech, BellSouth and GTE] This issue was raised in arbitration in Washington, and resolved as follows: "GTE's argument that customer proprietary information (CPNI) must not be disclosed without written authorization from the customer in order to protect the individual is unconvincing. This proposal creates an obstacle" and "the PIC change method adequately protects both the customer and the ILEC from unfair business practices." [Washington Report at 48]

Another parity-of-access issue concerns billing data for terminating access charges. The Commission recognized that a CLEC that provides exchange access services over unbundled elements "may assess exchange access charges to IXCs originating or terminating toll calls on those elements." [Order ¶ 363] To assess these access charges, the CLEC must be provided with the details concerning the interexchange call, including the calling party's number, the receiving party's number, the calling party's IXC, and the number of minutes of the call. The ILECs currently can capture all of this information for themselves, which enables them to bill timely

* For a further more detailed discussion of each of these elements of insuring parity, see Pfau-M at 7-12.

and accurately all originating and terminating minutes to the appropriate IXCs. However, it is LCI's and CompTel's understanding that the ILECs have not as yet made the changes required to provide equivalent information to the CLECs. *

Finally, parity-of-access in regards to electronic interfaces has been the source of some confusion. Thus, while the Commission has ordered the ILECs to provide electronic interfaces for machine-to-machine communications by CLECs where the ILEC's customer service representatives have direct electronic OSS access, i.e., application-to-application (app-to-app) access [Order ¶¶ 316, 516, 518, 521-23; Second Order on Recon ¶ 9], the interfaces presently being proposed by various ILECs "will not permit CLECs to communicate" with the ILECs' "systems at all." [Kirchberger-N at 18 (discussing Bell Atlantic)] In such instances, the ILECs have presented what at first blush appear to be full electronic interfaces (e.g., through Web/GUIs (graphical user interfaces)), but they are not, because they still require manual intervention by the ILEC and CLEC, whereas the ILEC itself has full electronic access. [See discussion of specific ILECs below]

* The ILECs cannot currently provide parity for this billing information because, for long distance calls terminating at their switches, they do not identify the number of the called party as part of the billing information. Instead, they simply measure at dedicated trunk ports the number of minutes of each IXC's calls that have been terminated at the switch, and in turn, bill those IXCs terminating access charges for those minutes. The ILECs did not need to identify the called party because all the customers attached to that switch (and to whom the long distance calls were terminated) were all switched access customers of the ILEC. Once the CLECs acquire unbundled local switching, which gives the CLECs the "exclusive right to provide all features, functions, and capabilities of the switch, including switching for exchange access and local exchange service" to its end user customers served by that unbundled switch [Second Order on Recon ¶ 11], the ILECs must adjust their OSS billing systems to identify the number of the called party on terminating interexchange bills. If the called party is a CLEC customer, then the ILEC must provide that CLEC with the details regarding the call, including the IXC and the duration of the call, to enable the CLEC to bill timely and accurately the terminating access charges. Only then will CLECs who provide service over unbundled elements be on equal footing (i.e., parity) with the ILECs.

In short, just because an interface is called "electronic" by an ILEC, that does not mean it provides the required full electronic, app-to-app access on a real-time basis as promised by the Order. [Workshop Comments at 9 (PacBell's "description of its forward-looking 'OSS Gateway' is scant to say the least. In just a few sentences, Pacific attempts to describe how it proposes to provide CLCs with application-to-application pre-ordering and ordering capability on a real time basis"')] Likewise, at least one ILEC (NYNEX) has attempted to rewrite the Order's "equality" standard of parity to mean "comparability of access," which is "meaningless" in view of the Act and the Order's "requir[ing] that CLEC representatives using [an ILEC's] OSSs have the same experience (in terms of accuracy, timeliness, reliability, and quality) as [ILEC] representatives using the system -- so that the experiences of CLEC customers [will] be equivalent to those of [ILEC] retail customers." [AT&T Brief at 35]

7. *Application of the Pertinent Requirements for Resale and Unbundled Network Elements*

The basic list of OSS requirements (pre-ordering, ordering/provisioning, billing, and maintenance and repair) has been heavily influenced by initial CLEC experiences. These experiences have involved resale and not unbundled network elements (UNEs). [See, e.g., Order ¶ 508 (discussion of the problems faced by AT&T with OSS systems while attempting to resell service in Rochester, New York under the pioneering Rochester Telephone Open Market Plan)]

This distinction of providing OSS access for resale and UNEs is crucial. The Act (section 251) contemplates three modes of local telecommunication competition: resale; the use of UNEs; and full facilities-based competition (with hybrid arrangements possible). Although resale is critical to the competitive logic of the Act, resale, from the perspective of LCI, CompTel members, and other IXC (interexchange carriers), is a limited, interim vehicle to check the existing monopoly power of the ILECs. In contrast, full facilities-based competition will

materialize only in the longer-term, and the widespread deployment of CLEC-owned local switching and loop facilities (or their functional equivalent) will take place only as local competitors gain experience and their market shares grow. The use of UNEs allows for a broad middle ground between resale and full facilities-based competition and permits an evolutionary pathway towards the latter state. [See Meyer-K at 15 (“As Sprint moves from resold services to unbundled network elements, the complexity of SWBT’s service offerings increases from that associated with just resold services” and “Sprint’s need for information from SWBT will increase with this increased complexity” because, “[w]hen utilizing unbundled network elements, a CLEC’s ability to compete will be dependent on understanding how the ILECs’ unbundled service elements work individually and combined, as well as, what is available and planned for the future”)]

LCI has focused on creating competitive services with UNEs, possibly to a greater extent than some other CLECs. Based on this experience, LCI believes it to be a fact that, as of this date, UNE platform tests are being conducted only by: (1) LCI and NYNEX, for a handful of lines in LCI’s New York sales office, a test which began in early April, is still underway, and is in no way commercially scalable; and (2) AT&T’s recent test agreement (for 20 lines) with Ameritech, described in the Kocher Aff. filed by Ameritech with its Section 271 application, and, to the best of LCI’s understanding, not actually underway as of this date. The test is expected to take at least 50 days. LCI is not aware of any other ongoing tests for the network platform. The Commission should be aware that the all-important UNE platform, so crucial and central to its recent policy in the access charge decision, is as of today, still a complete unknown. The tests now underway are for such small quantities of lines that any results would in no way be demonstrative, much less conclusive, as to the actual performance of the ILEC’s OSS for UNEs

in commercial quantities. The Commission's active oversight and order of OSS is critically important in the UNE arena.

B. Failure of the ILECs to Meet the OSS Requirements

1. Global Failure of the ILECs

As underscored by their efforts to extend the Commission's stated January 1, 1997 deadline by a year (more than 300 ILECs stated to the Commission that this deadline "does not realistically allow carriers to complete and implement national standards for access to OSS functions" [Second Order on Recon ¶ 3; see also Second Order on Recon ¶ 4 (noting various ILEC concessions of failures to meet the deadline)]), it is beyond fair dispute that, although months have passed since the Commission issued the Order, and more than a year has passed since the Act went into effect, not one ILEC has met the OSS requirements of the Order or section 251 to demonstrate that it is providing nondiscriminatory access to its OSS functions. In fact, while some ILECs have made some efforts on some fronts, other ILECs have made no effort whatsoever or such a minimal effort as to be just as worthless. LCI has not been made aware of any complete and tested electronic OSS existing *anywhere* for ordering and processing of unbundled network elements and only limited and inadequate systems exist for resale. And, of course, this failure means that the ILECs are holding on to their monopolies, the CLECs cannot possibly provide effective competition to the ILECs in local telephone markets, and consumers are being deprived of the lowered costs and enhanced quality that necessarily, and that Congress intended, would result from such competition.

Moreover, there is no indication that the various ILECs are making any significant efforts to standardize access to their OSS functions. No one would suggest that the ILECs engage in standardization-for-standardization-sake, nor would anyone criticize a non-standard approach

that otherwise has significant benefits. But an ILEC's deviation from an accepted standard without sound reason should be viewed with some skepticism. For example, Bell Atlantic has announced it will use the Bell Atlantic Regenerated Media (BARM) format, and Ameritech utilizes the Ameritech Electronic Billing System (AEBS) rather than CABS, even though CABS is the approved OBF standard for resale billing.

As MFS, which is currently operating as a co-carrier or is in the detailed implementation stage with all of the RBOCs, has explained: "Each one has its own requirements for ordering and provisioning procedures, such as specific order forms and interfaces (manual, mechanical, electronic), any of which may have a specific software database platform. Moreover, nomenclature and terminology can differ not only between MFS and the LECs, but also among the LECs themselves. This lack of standardization results in delays in orders being accepted, confirmed and processed. MFS has had these difficulties occur in virtually all markets for the provisioning of both interconnection trunking and unbundled loops." [Meade at 11-12] And the problem is compounded "in some markets due to the LEC's lack of procedures." [Meade at 12 ("we have had LECs connect an unbundled loop customer for MFS, only to disconnect the customer several days later, because it issued a disconnect order as part of its loop conversion procedure, *after* the loop was installed")] As MFS summed it up: "The current lack of standardization of order forms, interfaces, and demarcation points of responsibility impede the ability to implement local services in a timely and effective manner." [Meade at 13]

LCI has encountered substantial difficulties in this regard as well. Bell South and PacBell produce CSRs (customer service records) on media that prevent LCI from electronically manipulating the data, unless LCI completely rekeys the information into its own computers. Rekeying this information introduces the opportunity for errors and increases the risk that

customer service will be turned up incorrectly. While Ameritech, NYNEX and Bell Atlantic will provide CSRs electronically, these CSRs are in free-form text. This requires CLECs to develop sophisticated parsing routines to interpret the many different formats. These systems must be developed in a trial-and-error fashion due to the lack of specifications and documentation on the free-form text. Moreover, the format of the CSRs varies from one RBOC to another, and some RBOCs have multiple CSRs within a single state, making it even more difficult to standardize preordering software and the creation of preordering procedures. Further, while some RBOCs' CSRs contain complete information, at least one RBOC, PacBell, edits out information from its CSRs with black felt-tip pens.

As LCI and Comptel members develop electronic interfaces to the ILECs, another hurdle to overcome is the multitude of communications protocols (dedicated access, X.25, Connect:Direct, dial-up access, TCP/IP-socket, TCP/IP-web, Value Added Networks, tapes, diskettes and CDs) required by the ILECs including a variety of communications protocols within a single LEC which can be different for each of their OSS interfaces.

These interfaces are inconstant; for example, Ameritech plans to change the ordering communications protocol from a VAN requirement to TCP/IP sometime during the summer of 1997. In this environment, CLECs must continue to support moving targets.

Likewise, "the single most significant problem AT&T and Ameritech have encountered while attempting to deploy support systems is that Ameritech has unique operational support systems which compel unique OSS specifications. AT&T has been required to identify, through trial and error, Ameritech's unique system parameters and design its complementary system and its side of the interface to meet the unique Ameritech standards." [Connolly-S at 9-10] Illustratively, Ameritech's method for acknowledging changes to pending service requests (860

transaction set) is not in accordance with release 6 of the TCIF Guideline for EDI. The guideline states that the RBOC should acknowledge the changes using the Purchase Order Change Acknowledgment (865 transaction set). Ameritech is using the Purchase Order Acknowledgment (855 transaction set) to acknowledge the change. "Contrary to all other ILEC requirements, Ameritech's specifications for 850 transactions for reseller contact name and telephone number notes that, while this segment is optional in TCIF documentation, it is mandatory for Ameritech orders," and "[t]hus, failure to place an entry in this field will cause an Ameritech rejection." [Connolly-S at 13-14]

More generally, a CLEC must "work[] with each of the RBOCs across the country to develop OSS interfaces to accommodate differences in each system," and "the lack of clear, firmly established national guidelines makes this a highly complicated and extremely challenging undertaking for all parties involved, even under the best of circumstances." [Connolly-S at 10]

Finally, there does not appear to be a single ILEC that has made the changes necessary to allow for parity of access to their OSS when it comes to billing data for terminating access charges. As a result, the ILECs currently can capture for themselves all the information needed to bill all originating and terminating access minutes to the IXC's on a timely and accurate basis, but they cannot provide the equivalent information to the CLEC's.